

## ABSTRACT

An electronic electric meter for use in a networked automatic meter reading environment. The electric meter retrofits into existing meter sockets and is available for new meter installations for both single phase and three phase electric power connections.

- 5 The meter utilizes an all electronic design including a meter microcontroller, a measurement microcontroller, a communication microcontroller and spread spectrum processor, and a plurality of other communication interface modules for communicating commodity utilization and power quality data to a utility. The electric meter utilizes a modular design which allows the interface modules to be changed depending upon the
- 10 desired communication network interface. The meter measures electricity usage and monitors power quality parameters for transmission to the utility over a two-way 900 MHz spread spectrum local area network (LAN) to a remotely located gateway node. The gateway node transmits this data to the utility over a commercially available fixed wide area network (WAN). The meter also provides direct communication to the utility over a
- 15 commercially available network interface that plugs into the meter's backplane or bus system bypassing the local area network communication link and gateway node.

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